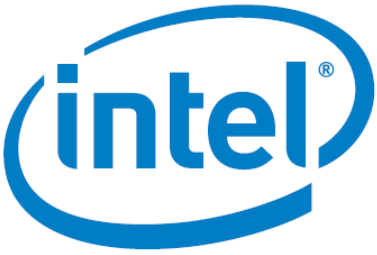
Intel® Rapid Storage Technology enterprise (Intel® RSTe) 3.2

Customer Release Notes

July, 2012

Revision 1.21



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Document Revision History

Date	Version	Description
17 June, 2010	1.0	Initial pre-Beta release
September 2010	1.1	Initial RSTe 3.0 pre-Beta release
November 2010	1.2	RSTe 3.0 pre-Beta release 3.0.0.1040
December 2010	1.3	RSTe 3.0 pre-Beta release 3.0.0.1045
February 2011	1.4	RSTe 3.0 Beta1 release 3.0.0.1047
February 2011	1.5	RSTe 3.0 Beta1 release 3.0.0.1052
March 2011	1.6	RSTe 3.0 Beta1 release 3.0.0.1059
April 2011	1.7	RSTe 3.0 Beta release 3.0.0.1065
June 2011	1.8	RSTe 3.0 Beta release 3.0.0.1080
June 2011	1.9	RSTe 3.0 Pre-PC release 3.0.0.1086
August 2011	1.10	RSTe 3.0 Pre-PC release 3.0.0.1111
September 2011	1.12	RSTe 3.0 Pre-PC release 3.0.0.1112
October 2011	1.14	RSTe 3.0 Pre-PC release 3.0.0.3002
December 2011	1.15	RSTe 3.0 PC Release 3.0.0.3016
December 2011	1.16	RSTe 3.0 PV Release 3.0.0.3020
March 2012	1.18	RSTe 3.1 Maintenance Release 3.1.0.1069
April 2012	1.19	RSTe 3.1 Maintenance Release 3.1.0.1085
July 2012	1.20	RSTe 3.2 Maintenance Release 3.2.0.1135
July 2012	1.21	Add errata for 6 Gps HDD's

1 Overview

Intel® RSTe 3.2.0.1135 maintenance release package contains the production version of the Intel® RSTe 3.2 Windows* drivers, Pre-OS components and utilities to support platforms built with the Intel® C600 series chipset. It provides support for the Intel® C600 series chipset Storage Controller Unit(s) (SCU) and Advanced Host Controller Interface (AHCI) when set to either AHCI mode or RAID mode.

This document covers the package contents, supported hardware configurations, credits, support, known issues and resolved issues.

2 Support on Internet

Support for Intel® RSTe 3.0 shall be provided via the Intel® Validation Internet Portal https://platformsw.intel.com/.

For answers to you Intel® C600 series chipset questions and to obtain other technical collateral, please contact your local Intel FAE.

3 Package Components and Versions

Intel® RSTe 3.2.0.1135, the first maintenance release package, is available on Intel® Validation Internet Portal as a kit. The contents of this kit include the following components:

- Rapid Storage Technology enterprise
  - Supporting Documents
    - RSTe 3.2 Release Notes
  - Install package (which contain the Intel® RSTe 3.2.0.1134 AHCI Driver and the Intel RSTe 3.2.0.1134 SCU driver package drivers and GUI)
    - IATA_CD.exe
    - IATA_ENU.exe
    - IATA_ALL.zip
    - IATA_CD.zip
    - IATA_ENG.zip
- RSTe Pre-OS component images and utilities
  - RSTe3.0_PC_Pre-OS_readme.txt
  - PreOS-2101.zip
    - Intel® RSTe 3.2 SATA Legacy RAID Option ROM image
    - Intel® RSTe 3.2 SATA DOS* based RAID Configuration utility
    - Intel® RSTe 3.2 SATA DOS* based RAID Comply utility
    - Intel® RSTe 3.2 SCU Legacy RAID Option ROM image
    - Intel® RSTe 3.2 SCU DOS* based RAID Configuration utility

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        - Intel® RSTe 3.2 SCU DOS* based RAID Comply utility
        - Intel® RSTe 3.2 UEFI SATA driver
        - Intel® RSTe 3.2 UEFI based SATA RAID Comply utility
        - Intel® RSTe 3.2 UEFI based SATA RAID Command Line Interface (CLI) utility
        - Intel® RSTe 3.2 UEFI SCU driver
        - Intel® RSTe 3.2 UEFI based SCU RAID Comply utility
        - Intel® RSTe 3.2 UEFI based SCU CLI utility
- RSTe f6 Drivers Staging (drivers and utilities)
    - RSTe_3.2.0.1135_Drivers.zip
        - RSTe_3.2.0.1135_F6-Drivers
            - Intel® RSTe 3.0 F6 SCU Installation Drivers
                - RSTe_f6_iaStorS_32 (3.2.0.1134)
                - RSTe_f6_iaStorS_64 (3.2.0.1134)
            - Intel® RSTe 3.0 F6 AHCI Installation Drivers
                - RSTe_f6_iaStorA_32 (3.2.0.1134)
                - RSTe_f6_iaStorA_64 (3.2.0.1134)
- RSTe CLI Staging
    - RSTe CLI Specifications.pdf
    - CLI.zip
        - Rstcli32.exe
        - Rstcli64.exe
- RSTe CIM Staging
    - CIM_Readme.txt
    - setupCIM.exe

3.1 Supported Configurations

3.1.1 Intel® C600 Series Chipsets Silicon Stepping

- C0 (driver and firmware)
- C1 (driver and firmware)

3.1.2 SKUs:

All SKUs are supported (-A, -B, -D and –T) from an operational standpoint but not all of the specific SKU features have been fully implemented.

4 Supported Platforms

This Intel® RSTe 3.2.0.1135 maintenance release package is intended to be used on customer platforms that are based off of the Intel® Romley architecture that contains the Intel® C600 series chipset.

Please contact your Intel FAE for up to date information related to Romley platform components.

4.1 Intel® RSTe 3.2.0.1135 Maintenance Release Package Documentation

It is strongly recommended that all documentation provided with this release package be reviewed prior to installing the Intel® RSTe 3.2 Windows* driver package.

4.2 Support

With this maintenance release, Intel will accept and process issues reported by customers. Intel makes no commitment to provide a driver update prior to the next scheduled maintenance release.

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5 General Notes: RSTe 3.2.0.1135 - PV Release Package

5.1 Features/Configuration Restrictions

The following configurations and test scenarios are not supported in this release, and as such, any issues reported against these configurations will not be accepted:

- Installing Windows Server 2003 and XP-64 on B-Stepping parts is not functional and will not be supported.
- MPIO Load Balancing in RAID Mode is unsupported
    - A SAS Wide port spanning SCU0 and SCU1 is not supported. SCU0 and SCU1 are independent units and are thus unable to combine the buffers necessary to create a combined port. Consequently, plugging both SCU's into the same SAS topology will create a multi-path IO scenario (which is unsupported).
    - Setting up this configuration is not a valid RSTe 3.0 use case. If connected in this configuration, any redundant objects will not be reported to OS upper layers.
- The SCU PHY's maximum speed is limited to 3 Gbs.

  NOTE: Platform BIOS must be updated with the latest Pre-OS images contained in this release.

5.2 Firmware Limitations

The SCU Legacy OROM supports the following configurations:

- Booting from direct attached SAS and SATA disks only
- Recommended to be the last ORM loaded
- BIOS will need to load both SATA Legacy RAID OROM and SCU Legacy RAID OROM or both SATA EFI and SCU EFI drivers
    - This is to ensure that the OEM Parameters are loaded and the SCU Controller is properly configured
- POST messages are displayed only if more than one drive is attached to the SCU
- BIOS MUST support the INT15 function call to obtain the OEM Parameter information that MUST be programmed into SPI Flash
    - Please contact you FAE for additional information.

5.3 Additional Chipset Configuration Information

The PCI Device ID for the AHCI controller in RAID mode must be 0x2826. In order to program the controller to report this ID, it is necessary to set a reserved bit in the SATA Clock General Configuration Register (SCLKGC, as referenced by the latest

Intel® C600 series chipset EDS). The register is in the memory mapped region of bus 0, device 31, function 2, at offset 9Ch-9Fh, bit position 9. The bit is R/WO, following the usage semantics of the Alternate ID Enable (AIE) bit.

It is Intel's recommendation that the PCHSTRP16 strapping be left to the default –T SKU value. Please reference CDI/IBL Document No. 454672 for information on properly configuring the PCHSTRP16 strap in BIOS.

6 Specific Known Issues

This section outlines the known issues with the Intel® RSTe 3.2.0.1135.

Note: This is neither a complete nor comprehensive list.

The known issues are broken down into two sub sections. The first outlines those issues that are being worked on or are planned to be corrected in a future release. The second outlines those issues that are considered permanent erratum.

KEY:

Title	Brief description of the issue to assist in identifying whether it affects the reader's application or no
Reference #	Used to reference Intel's internal database for further follow-up on inquiry
Product	Identifies which products are affected by this issue
Version	Identified which release set versions area affected by this issue
Operating System	Where applicable, identifies which operations systems are affected by this issue
Problem Description	Additional information to help the reader determine if this issue affects their application
Resolution/Status	Provides either the current status of the issue or the targeted release for a fix

6.1 Errata

The following is a list of issues that RSTe has no current plans for resolving.

Title	Some 6 Gps HDD's do not link train to 3 Gps
Reference #	3000000
Product	Intel® RSTe 3.0

Version	3.2.0.1135
Operating System	Windows*
Problem Description	Late in the Patsburg release cycle, the SCU had its PHY's limited to a max rate of 3 Gps. As a consequence, some high performance drives did not link train to the lower speed. The advised course of action is to contact your HDD manufacturer and obtain the latest firmware for 6 Gps HDD's
Resolution/Status	No plan to resolve this issue in the RSTe 3.0 product baseline.

Title	SATA PHY Power Management Idle Timers May Not Be Properly Managed
Reference #	3006800
Product	Intel® RSTe 3.0
Version	3.0.0.1065
Operating System	Windows*
Problem Description	Running heavy I/O to a HIPM capable drive, on a platform that has Power Management enabled, may result in a failure condition. Workaround: Avoid running with Power Management enabled when HIPM capable drives attached.
Resolution/Status	No plan to resolve this issue in the RSTe 3.0 product baseline.

Title	Vista and earlier OS's; RAID Volume Creation or Deletion May Result in Event Log Error
Reference #	3006850
Product	Intel® RSTe 3.0
Version	3.0.0.1019
Operating System	Windows*
Problem Description	Creating or deleting a RAID volume may result in an error being reported to the System Event Log. The storport driver may fail to recognize the surprise removal flag exported by the driver.
Resolution/Status	No plans to resolve this issue in the RSTe 3.0 driver product baseline.

Title	Rename Volume - Upon Rename the Page May Jump to First Enumerated Disk

Reference #	3007075
Product	Intel® RSTe 3.0
Version	3.0.0.1062
Operating System	Windows*
Problem Description	After renaming a volume, the UI jumps to the first enumerated disk and displays that disk properties. Expected behavior should be that the 'Volume Properties' page refreshes with the new volume name and stays at that page.
Resolution/Status	No plan to resolve this issue in the RSTe 3.0 product baseline. Issue to be addressed in a future product release.

Title	**RSTe UI Create Wizard May Lose Disk Focus**
Reference #	3234466
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	While using the RSTe UI after selecting a disk the Create wizard focus may return to the top of the drive list instead of staying on the selected disk.
Resolution/Status	No plan to resolve this issue in the RSTe 3.0 product baseline. Issue to be addressed in a future product release.

Title	**Selecting the Create Wizard or Help Button May Take Some Time to Launch**
Reference #	3234469
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	When running the RSTe 3.0 UI selecting the Create Wizard or Help buttons may take some time before they launch.
Resolution/Status	No plan to resolve this issue in the RSTe 3.0 product baseline. This issue will be addressed in a future product release.

Title#	**Running Heavy IO to 256 Drives May Fail**
Reference	3234607
Product	Intel® RSTe 3.0

Version	3.0.0.1080
Operating System	Windows*
Problem Description	Running in a configuration of 256 drives running heavy I/O (like IOmeter) with a block size of 512 bytes and a queue depth of 8 may result in an I/O failure. RSTe only supports a single level of expanders.
Resolution	No plans to resolve this issue in the RSTe driver.

Title	Windows* 2003 Server 64 bit Cannot be Installed on a RAID volumes (AHCI or SCU Controllers)
Reference #	3234688
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	The In Box installation image for Windows 2003 does not support the Microsoft Storport Miniport Driver Model. Microsoft made enhancements to the Storport Miniport architecture that was implemented following the release of Windows 2003. Microsoft made a Hot-Fix available for download. This issue will be encountered only when accessing a RAID volume. For more detailed instruction on applying the Hot-Fix to the installation images can be found http://technet.microsoft.com/en-us/library/cc766320(WS.10).aspx Workaround: On platforms with C0 C600 series chipsets: 1. Install to a single Pass-thru disk 2. Apply the appropriate Hot-Fix to bring the StorPort driver up to current standards. * The hotfix can be downloaded at: http://support.microsoft.com/kb/932755 3. Reboot the system 4. Use RSTe GUI to create the desired RAID Volume from the existing boot drive. Note: using B0 C600 series chipset may not support installing Windows* 2003 due to a known errata that was fixed in C0.
Resolution/Status	No plans to resolve this issue in the RSTe 3.0 driver.

Title	'Remove Safely' not presented when eSATA drives are attached
Reference #	3235187
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	When a drive is attached to an eSATA port, Windows is not notified that an external, and thus removal, drive is present.

Resolution/Status	No plans to resolve this issue in the RSTe 3.0 driver product baseline. This issue will be addressed in a future product release.

Title#	**A system failure may occur when Hot Plugging Expander configuration with many drives.**
Reference	3235324
Product	Intel® RSTe 3.0
Version	3.0.0.1111
Operating System	Windows*
Problem Description	When Hot Plugging more than 120 Drives using multiple Expanders that are Daisy Changed and plugged into the SCU phy 1 and 2 ports causes a BSOD D1 while hot plugging the 121st Disk on an Expander that has a free open slot.
Resolution	No plans to resolve in the RSTe driver.

Title#	**System May Crash with a 0xD1 Error When Hot Plugging more than 120 Drives using Expanders that are Daisy Chained on SCU Ports**
Reference	3235502
Product	Intel® RSTe 3.0
Version	3.0.0.1019
Operating System	Windows*
Problem Description	When Hot Plugging more than 120 Drives using multiple Expanders that are Daisy Changed and plugged into the SCU phy 1 and 2 (ports) may result in a system crash (BSOD 0xD1) while hot plugging the 121st Disk on an Expander.
Resolution	No plan to resolve in the RSTe driver.

Title#	**WHQL Audio Fidelity Test fails with HDD or SSD boot/data disks on Intel controllers**
Reference	3236685
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Windows*
Problem Description	WHQL Audio Fidelity Test fails with HDD or SSD boot/data disks on Intel controllers

Resolution	Issue root caused to Microsoft WHQL test. Please refer to latest updates on this issue @winqual.microsoft.com.

6.2 Known Issues Being Worked

The following issues are presented in numerical order

Title#	**The 'Browse Back' Button in the RSTe UI May Not Be Functioning Properly**
Reference	3006893
Product	Intel® RSTe 3.0
Version	3.0.0.1047
Operating System	Windows*
Problem Description	When viewing the Help topics from the RSTe UI, on some topics (e.g. Managing Volumes), the 'Browse Back' option may not function properly.
Resolution	Issue to be resolved in a future release.

Title#	**Migration/Rebuild volumes may not have all LEDs blinking**
Reference	3235214/3235507
Product	Intel® RSTe 3.0
Version	3.0.0.1111
Operating System	Windows*
Problem Description	Performing a RAID Migration/Rebuild may not result in all of the appropriate SGPIO LEDs blinking correctly
Resolution	Issue to be resolved in a future release.

Title#	**RSTe driver version may appear to be older than Intel(R) C600 series chipset driver version**
Reference	3235327
Product	Intel® RSTe 3.0
Version	3.0.0.1111
Operating System	Windows*
Problem Description	When installing the RSTe driver on Intel(R) C600 series chipset based platform (after the chipset drivers have been installed), the

	installation process my report that the chipset driver version is newer then the RSTe driver version.
Resolution	Issue to be resolved in a future release.

Title#	**RSTe GUI may not open with an unknown/incompatible drive attached.**
Reference	3235414
Product	Intel(R)RSTe 3.0
Version	3.0.0.3002
Operating System	Win7-64
Problem Description	When operating is a system where the PreOS (i.e. Legacy OROM or EFI driver) reports that an unknown or incompatible drive is attached to the system attempting to open the RSTe GUI may result in an unknown error occurred while running the application. If the problem persists please restart your computer or try reinstalling the application." message box being displayed. Workaround: The unknown/incompatible drive should be reformatted or replaced."
Resolution	Issue to be resolved in future release.

Title#	**RSTe 3.0 GUI May Not Allow the Size of a RAID Volume to be Modified if there is Data on One of the Disks**
Reference	3235416
Product	Intel(R)RSTe 3.0
Version	3.0.0.3002
Operating System	Win7-64
Problem Description	When using the RSTe 3.0 GUI to create a RAID volume with one of the drives containing data to be maintained; after the disk has been selected (to keep the data) the size may no longer be allowed to change. This condition may impact RAID 0, 5 and 10.
Resolution	Issue to be resolved in future release.

Title#	Hot-plug an Expander While IO is Running May Result in the Disks Going Offline
Reference	3235625
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Windows 2003 64-bit
Problem Description	Hot-plugging an expander while I/O is being performed may result in the disks not being rediscovered and going offline.
Resolution	Issue to be resolved in future release.

Title#	A RAID Volume May Not Be in Verify Fix/Repair Mode After a Unexpected (Dirty) Shutdown
Reference	3235775
Product	Intel® RSTe 3.0
Version	3.0.0.1112
Operating System	Windows 2003-64
Problem Description	When running heavy I/O to a RAID Volume and an unexpected (dirty) shutdown occurs, upon restarting the system, the RAID Volume may not be properly placed into Verify Fix/Repair Mode and a manual Verify/Repair may be required.
Resolution	Issue to be resolved in future release.

Title#	ODD Hot-unplugged from the AHCI Controller May Not Be Reflected in the RSTe 3.0 GUI
Reference	3235965
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Windows*
Problem Description	When hot removing a DVD drive in Win7 64 SP1 the drive will be removed in Disk Management, but may not be removed from the

	RSTe UI.
Resolution	Issue to be resolved in future release.

Title#	**RSTe 3.0 GUI May Not Properly Report the Ports with Optical Disk Drives Attached to the AHCI Controller**
Reference	3235975
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Windows*
Problem Description	When viewing the DVD drives attached to the AHCI Controller in the RSTe 3.0 GUI system report, the ports that the DVD drives are connected to may not appear. This may occur in both RAID and AHCI mode.
Resolution	Issue to be resolved in future release.

Title#	**RSTe 3.0 GUI May Show the Port of a Hot-plugged Drive as Unknown**
Reference	3236248
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Win7
Problem Description	When hot-plugging drives, the RSTe 3.0 GUI information bubble may randomly show the port of the hot plugged device as unknown.
Resolution	Issue to be resolved in future release.

Title#	**Manufacturer and Model Number May Not Match Between RSTe GUI and RSTe System Report**
Reference	3236407
Product	Intel® RSTe 3.0
Version	3.0.0.3011
Operating System	Windows*
Problem Description	When reviewing device Manufacturer and Model Number, the information displayed in the RSTe GUI may not match what is

	shown in the RSTe System Report.
Resolution	Issue to be resolved in future release.

Title#	RSTe UI May Not Show Whole FW of HDD attached
Reference	3236733
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Windows*
Problem Description	When reviewing device Manufacturer and Model Number, the information displayed in the RSTe GUI may not match what is shown in the RSTe System Report.
Resolution	Issue to be resolved in future release.

Title#	Parity errors occur during verifying process after migration completed
Reference	3236922
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Windows*
Problem Description	Creating a RAID1 volume form OROM using 50% capacity of two HDDs, then increase the size using remain capacity. Parity error occurs in verifying process after migration completed.
Resolution	Issue to be resolved in future release.

Title#	The RSTe utility will show error message.
Reference	3237089
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Windows*
Problem Description	When we use two ODD on our OS, after install the RSTe driver and the RSTe utility will show error message. Remove one ODD will be OK!
Resolution	Issue to be resolved in future release.

Title#	Degraded RAID arrays on SCU resuming from S3 w/ unmatched drives
Reference	4159130
Product	Intel® RSTe 3.0

Version	3.0.0.3002
Operating System	Windows*
Problem Description	In a system where a RAID volume consists of drives that are not identical, the volume may come up 'degraded' on S3 resume
Resolution	Issue to be resolved in future release.

Title#	System will not restart automatically after Intel® RSTe installed.
Reference	4159208
Product	Intel® RSTe 3.0
Version	3.0.1.7039
Operating System	Windows*
Problem Description	When running setup to install the Intel RSTe package, once the installation is complete, the system may not properly restart after selecting "Yes, I want to restart this computer now" .
Resolution	Issue to be resolved in future release.

Title#	RSTe 3.1 unable to install to a RAID Volume Greater the 2 TB on SCU Controller
Reference	4159612
Product	Intel® RSTe 3.0
Version	3.1.0.1085
Operating System	Windows*
Problem Description	Unable to install Win7 64bit to a RAID Volume (RAID 0) that is greater the 2 TB. System is configured to boot using Legacy OROM.
Resolution	Issue to be resolved in future release.

Title#	Loss of RAID 1 volume capacity with OROM 3.1.0.2101 compared to OROM 3.0.1.1370
Reference	4160002
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	PreOS
Problem Description	When upgrading to bios with OROM OROM 3.1.0.2101 from OROM 3.0.1.1370, the customer sees about 5% loss of capacity.
Resolution	Issue to be resolved in future release.

Title#	IOCTL READ SECTOR fails on RAID 5 configurations on the INTEL SCU.
Reference	4160023

Product	Intel® RSTe 3.0
Version	3.1.0.1068
Operating System	Windows*
Problem Description	The IOCTL fails with error code 170 (Resource busy) when performing a READ SECTOR.
Resolution	Issue to be resolved in future release.

Title#	**System hang with Sophos SafeGuard installed on HDD on SCU port**
Reference	4160057
Product	Intel® RSTe 3.0
Version	3.1.0.1068
Operating System	Windows*
Problem Description	When the Sophos SafeGuard drive encryption software is configured on a SATA HDD attached to the SCU port, the system will hang in the Sophos pre-boot environment.
Resolution	Issue to be resolved in future release.

Title#	**RSTe driver could not identify correct Intel 510/520 SSD**
Reference	4160062
Product	3.1.0.1068
Version	3.1.0.1068
Operating System	Windows*
Problem Description	The model name of Intel SSD can't be displayed within " Intel Solid-State Drive Toolbox" utility.
Resolution	Issue to be resolved in future release.

Title#	**System May Become Unresponsive With an Expander**
Reference	CCG0100283502
Product	Intel® RSTe 3.0
Version	3.0.0.3020
Operating System	SCU Legacy OROM
Problem Description	When running in a configuration with the boot drive directly attached to SCU0 and an expander attached to SCU1, the system may become unresponsive during boot.
Resolution	Issue to be resolved in a future release.

Title#	**System May Become Unresponsive Under Certain Stress Testing**
Reference	CCG0100297804

Product	Intel® RSTe 3.0
Version	3.1.0.1068
Operating System	Windows*
Problem Description	With the 3.1.0.1068 maintenance release, some performance modifications/improvements have been implemented. One modification was the addition of a performance specific registry key (PerformanceOptimizationsEnable) in the INF file. The default setting (established in the 3.1.0.1068 release) improves the performance of installations of the OS and other applications such as Windows* Live Essentials. On systems configured with 5 or more high performance SAS drives connected to the SCU controller, running specific small block I/O heavy stress tests (e.g. IOMeter 512 Byte Sequential READs) may result in the system becoming unresponsive. This unresponsiveness can become more pronounced with more drives attached and (the corresponding) heavier stress load placed on the system. Under some conditions, if stopping the I/O test does not recover, a system reboot may be required. It is believed that this issue will only be encountered with 5 or more high performance SAS drives running IOMeter 512B Sequential READs stress test. The architecture of IOmeter in conjunction with the RSTe optimizations create a potential scenario were the CPU's (that are processing the I/Os) are 100% utilized and the system becomes unresponsive. It is possible that a custom kernel based (not application) stress tool may potentially encounter this issue. Application based stress tools will not encounter this issue. Workaround: Go into the registry and change the value of PerformanceOptimizationsEnable from 0 to 1. Exit the registry edit tool and reboot the system.
Resolution	Issue to be resolved in a future release.

6.3 Issues Resolved in Release 3.2.0.1135 Maintenance Release Package

The following issues have been resolved with the release of the Intel® RSTe 3.0 PV driver version 3.2.0.1135 release package.

Title#	An Empty Port in a Direct Attached Configuration May Not be Properly reported in the UI or System Report
Reference	3235080
Product	Intel® RSTe 3.0
Version	3.0.0.1111
Operating System	Windows*
Problem Description	RSTe 3.0 may not properly report the status of an empty port (in a direct attached configuration) for the AHCI controller or SCU controllers.
Resolution	Issue to be resolved in a future release.

Title#	System Report May Show Too Many Ports
Reference	3235419
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Win7-64
Problem Description	When viewing the System Report on a platform running with RSTe 3.0 the report may display too many ports. (i.e. it may report 10 AHCI Controller ports when there are only 6)
Resolution	Issue resolved in the 3.2.0.1131 release.

Title#	RSTe 3.0 Driver May Not Support CSMI SCSI Pass Thru Calls to the SCU Controller on all Romley Based Platforms
Reference	3235582
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Windows*
Problem Description	When running on a Romley based platform with the RSTe 3.0 driver, CSMI SCSI Pass Thru calls may not function properly on all platforms.
Resolution	Issue to be resolved in a future release.

Title#	RSTe GUI Showing "Mode:RAID" for AHCI Controller when it is in

	"AHCI Mode"
Reference	3236822
Product	Intel® RSTe 3.0
Version	3.0.0.3011
Operating System	Windows*
Problem Description	When running with the AHCI Controller in AHCI Mode" the RSTe GUI may show that the controller is in "RAID" mode."
Resolution	Issue resolved in the 3.2.0.1131 release.

Title#	RSTe 3.0 may prevent the Intel SSD Toolbox from working properly
Reference	3236839
Product	Intel® RSTe 3.0
Version	3.0.0.1023
Operating System	Vista Windows XP-64
Problem Description	Installing RSTe3.0 may rename the storage devices present on the system, and as a result may block the functionality of Intel SSD Toolbox (official Intel user app for running TRIM maintaining health of SSD storage devices). This issue may also impact various PASSTHROUGH commands.
Resolution	Issue resolved in the 3.2.0.1131 release.

Title#	SGPIO is not Enabled By Default in RSTe 3.0
Reference	3236877
Product	Intel® RSTe 3.0
Version	3.0.0.1023
Operating System	Windows Vista/2008R1
Problem Description	To support Hibernate on Vista and Windows 2008 R1 SGPIO was disabled by default. To enable SGPIO support the following registry key is required to be added to the registry: [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\ iaStorA\Parameters\Device] LED_Supported"=dword:00000001"
Resolution	Issue resolved in the 3.2 release.

Title#	Install Windows 2003 SP2 onto a Drive Connected to the SCU Controller May Fail
Reference	3237063
Product	Intel® RSTe 3.0
Version	3.0.0.3020
Operating System	Windows*
Problem Description	Attempting to install Windows 2003 SP2 on to a drive attached to the SCU Controller may stop at the "Setup is starting Windows" screen of the installation process.
Resolution	Issue resolved in the 3.2.0.1131 release.

Title#	Array Disk Write Cache State May Turn to Disable from Enable when Resuming from S4
Reference	3237184
Product	Intel® RSTe 3.0
Version	3.0.0.3020
Operating System	Windows*
Problem Description	When resuming from an S4 with the Array Disk Write Cache state "enabled", the Pre-OS environment may switch the state to "disabled" for all available arrays.
Resolution	Issue resolved in the 3.2.0.1135 release.

Title#	RSTe GUI unable to open w/ RAID volumes w/ same names on each controller
Reference	4159105
Product	Intel® RSTe 3.0
Version	3.1.0.1068
Operating System	Windows*
Problem Description	When running in a configuration were the PreOS environment may have been used to create two RAID volumes with the same name, the RSTe GUI may not open properly.
Resolution	Issue resolved in the 3.2.0.1135 release.

Title#	Attempting to boot into Safe Mode May Result in a System Failure

Reference	4159219
Product	Intel® RSTe 3.0
Version	3.1.0.1085
Operating System	Windows*
Problem Description	Attempting to boot a system with RSTe 3.0 by result in the system encountering a critical error condition.
Resolution	Issue resolved in the 3.2.0.1135 release.

Title#	**WD 6Gig SAS Drive fix implemented in 3.1 is adding up to 1 minute per drive delay during OROM post.**
Reference	4159851
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Windows*
Problem Description	When attempting to use 6Gig SAS Western Digital hard disk drives, the system may encounter a 30-60 second delay (per drive) while booting. The screen may be blank during this time giving the impression that the system may be locked up.
Resolution	Issue resolved in the 3.2.0.1135 release.

Title#	**RSTe 3.1 GUI May Not Open with 2 RAID Volumes with the Same Name Present**
Reference	CCG0100295956
Product	Intel® RSTe 3.0
Version	3.0.0.3020
Operating System	Windows*
Problem Description	When running in a configuration with two (or more) RAID volumes with the same name, the RSTe 3.1 GUI may not open properly. This issue may be seen with whether the two same named volumes are on a single controller or split between the AHCI and SCU controllers. Workaround: Avoid having the multiple RAID volumes with the same name.
Resolution	Issue resolved in the 3.2.0.1131 release.

Title#	**RSTe UI to support SES commands for LED's to Expanders**
Reference	CCG0100334980

Product	Intel® RSTe 3.0
Version	3.0.0.3020
Operating System	Windows*
Problem Description	The RSTe UI did not send SES messages to control LED's on expanders.
Resolution	Issue resolved in the 3.2.0.1135 release.

Title#	**IOCTL_STORAGE_QUERY_PROPERTY with StorageDeviceSeekPenaltyProperty Descriptor returns error**
Reference	CCG0100357733
Product	Intel® RSTe 3.0
Version	3.0.0.3020
Operating System	Windows*
Problem Description	The StorageDeviceSeekPenaltyProperty descriptor was not supported.
Resolution	Issue resolved in the 3.2.0.1135 release.

Title#	**RSTe BSOD with 9F During Restart Stress Testing**
Reference	CCG0100420738
Product	Intel® RSTe 3.0
Version	3.0.0.3020
Operating System	Windows*
Problem Description	During warm restart cycling, RSTe would occasionally BSOD the system with a 9F bugcheck code
Resolution	Issue resolved in the 3.2.0.1135 release.

Title#	**RSTe Unable to perform S4 resume testing**
Reference	CCG0100423325
Product	Intel® RSTe 3.0
Version	3.0.0.3020
Operating System	Windows*
Problem Description	RSTe was BSOD during S4 cycling tests

Resolution	Issue resolved in the 3.2.0.1135 release.

Title#	**RSTe will BSOD with 7A on sleep cycle testing**
Reference	CCG0100432073
Product	Intel® RSTe 3.0
Version	3.0.0.3020
Operating System	Windows*
Problem Description	While performing S3 cycle testing, RSTe will occasionally BSOD with 7A
Resolution	Issue resolved in the 3.2.0.1135 release.

6.4 Issues Resolved in Release 3.1.0.1085 Maintenance Release Package

6.4

The following issues have been resolved with the release of the Intel® RSTe 3.0 PV driver version 3.1.0.1085 release package.

6.4

Title#	**S3/S4 issues seen on Intel(R) C600 series chipset based platforms**
Reference	3235358
Product	Intel(R)RSTe 3.0
Version	3.0.0.1100
Operating System	Win7
Problem Description	Attempting to run S3/S4 on platforms based on the Intel(R) C600 series chipset may encounter a variety of issues ranging from system hangs to system crashes. Check with your local Intel FAE or support representative to make sure that you have all of the latest HW changes/BIOS version and corresponding drivers.
Resolution	Issue resolved in 3.1.0.1068

Title#	**Platforms with RAID Volumes in the Verify State May Cause S4/Hibernate failures**
Reference	3236470
Product	Intel® RSTe 3.0
Version	3.0.0.1023

Operating System	Windows Vista
Problem Description	When running in system where a RAID Volume is in a verify state performing an S4/Hibernate may result in a hiberfile corruption message appearing when the system begins to power back on.
Resolution	Issue resolved in 3.1.0.1068

Title#	**Performing a File Copy to SATA Blueray Drives May Fail**
Reference	3236672
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Windows*
Problem Description	When copying a large file to a RW Blueray disk, the file copy may not complete and may require a system reboot to clear the failed copy.
Resolution	Issue resolved in 3.0.2.7038

Title#	**HDD activity LED stops working as the Operating System is loading, on SCU controller**
Reference	3236798
Product	Intel® RSTe 3.0
Version	3.0.0.3002
Operating System	Windows*
Problem Description	HDD activity LED stops working as the Operating System is loading, on SCU controller. It works fine when the HDD is on AHCI.
Resolution	Issue resolved in 3.0.2.7038

Title#	**The System May Hang at 'Resuming Window' Screen intermittently when resuming from an S3 and/or S4**
Reference	3236869
Product	Intel® RSTe 3.0
Version	3.0.0.1123
Operating System	Windows*
Problem Description	When attempting to perform an S3 or S4, the system may hang while resuming. Many times resulting in a blank screen. Some

	systems with BIOS post code indicators may stop at a value not associated with an operational state.
Resolution	Issue resolved in 3.0.3.1018

Title#	**Calling IOCTL_SCSI_GET_ADDRESS in RAID Mode (AHCI-only) May Result in the System Becoming Unresponsive**
Reference	3237028
Product	Intel® RSTe 3.0
Version	3.0.0.2003
Operating System	Windows*
Problem Description	When calling IOCTL_SCSI_GET_ADDRESS while the ACHI Controller is in RAID Mode may result in the system becoming unresponsive. A system reboot may be required to recover from this condition.
Resolution	Issue resolved in 3.0.2.7038.

Title#	**RSTe UI May Stop Functioning when the controller field is selected w/ Turkey language in Win7 OS**
Reference	3237064
Product	Intel® RSTe 3.0
Version	3.0.0.3016
Operating System	Windows*
Problem Description	RSTe UI may stop functioning when the controller field is selected w/ Turkey language Win7 OS. This occurs only with the Turkey language option.
Resolution	Issue resolved in 3.0.2.7038.

Title#	**Spread Spectrum Clocking Not Properly Configured by SCU Legacy OROM**
Reference	3237134
Product	Intel® RSTe 3.0
Version	3.0.0.3020
Operating System	Windows*
Problem Description	When attempting to monitor Spread Spectrum Clocking (SSC) from a DOS boot environment may show that SSC is not properly enabled. This condition is only seen with the BIOS is configured to load the

	SCU Legacy OROM.
Resolution	Issue resolved in 3.1.0.1069

Title#	**Performance degradation for SATA disks on SCU vs AHCI**
Reference	CCG0100283868
Product	Intel® RSTe 3.0
Version	3.0.0.1023
Operating System	Windows 7
Problem Description	When running Windows Live Essentials installation, the installation to SATA disks attached to the SCU takes twice the amount of time as an installation to a SATA disk attached to AHCI
Resolution	Issue resolved 3.0.4.1006

Title#	**A PSI event may be generated as a System Exception in the Event manager after running close to hundred S3 cycles.**
Reference	CCG0100282607
Product	Intel® RSTe 3.0
Version	3.0.1.7016
Operating System	Windows*
Problem Description	RSTe DataManager service may generate a System Exception in the Event manager that the Initial Storage Driver Load failed" and a balloon pop up may be seen as announcing devices/arrays detected and the RSTe Datamanager service may show as consuming memory up to 1MB, after running few hundred S3 cycles.
Resolution	Issue resolved in 3.1.0.1068

Title#	**RSTe SCU Driver May Not Properly Program the SCU Controller with the OEM Parameters in SPI Flash**
Reference	CCG0100300919
Product	Intel® RSTe 3.0
Version	3.1.0.1068
Operating System	Windows*
Problem Description	When attempting to run with the SCU component of the 3.1.0.1068 driver, the OEM Parameters (from SPI Flash) may not be properly programmed into the SCU Controller. The default values may

	actually be programmed instead. This can impact the SAS Addresses, the SSC settings as well as the custom Phy settings that are stored as part of the OEM Parameters in SPI Flash.
Resolution	Issue resolved in 3.1.0.1085

6.5 Issues Resolved in Release 3.0.0.3020

The following issues have been resolved with the release of the Intel® RSTe 3.0 PV driver version 3.0.0.3020 release package.

Title#	**RSTe3.0 - Pre-OS drivers may not properly handle drives with logical sector size other than 512bytes**
Reference	3234424
Product	Intel® RSTe 3.0
Version	3.0.0.1023
Operating System	PreOS
Problem Description	The RSTe 3.0 Pre-OS drivers (Legacy OROM and UEFI drivers) may not properly support disk drives that are not formatted with 512 byte logical sector size. Work around: Avoid using these types of disks.
Resolution	Issue resolved in 3.0.0.1370 PreOS release.

Title#	**SCU EFI driver May Be Unable to Connect to and Interoperate with up to 4 Levels of Cascaded SAS Expanders**
Reference	3234424
Product	Intel® RSTe 3.0
Version	3.0.0.1023
Operating System	Windows*
Problem Description	SCU EFI Driver may be unable to connect to and interoperate with up to 4 levels of cascaded SAS Expanders. The SCU EFI driver may only see up to 2 levels of the cascaded Expanders (of any type of enclosure/expander). The RSTe 3.0 UI does handle up to 4 levels while installed on Legacy OROM and up to 3 Levels on EFI driver.

Resolution	Issue resolved in the 3.0.0.3011 SCU driver.

Title#	**Volume Status Text May Not Properly Update After Being Rest to Normal**
Reference	3234634
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	When running in a configuration were a RAID volume disk is offline and is then brought back online if the More Help" link is selected the "No" option to reset the volume may go back to the "Yes" option. As a result the volume status may not update to "Normal". Workaround: Avoid selecting "More Help" right after bringing a RIAD volume disk back online."
Resolution	Issue resolved in the 3.0.0.3020 release.

Title#	**SGPIO Migration/Rebuild flashing doesn't resume after Locate button pressed**
Reference	3235213/3235506
Product	Intel® RSTe 3.0
Version	3.0.0.1111
Operating System	Windows*
Problem Description	When performing a RAID Migration/Rebuild, the SGPIO blink pattern may be interrupted during a Locate activity (from the RSTe 3.0 UI). Upon completion of the Locate activity, the Migration/Rebuild blink pattern may not resume properly.
Resolution	Issue resolved in 3.0.0.3011 AHCI RAID driver.

Title#	**SCU EFI driver May Be Unable to Connect to and Interoperate with up to 4 Levels of Cascaded SAS Expanders**
Reference	3235492
Product	Intel(R)RSTe 3.0
Version	3.0.0.1019
Operating System	Win7-64
Problem Description	SCU EFI Driver may be unable to connect to and interoperate with up to 4 levels of cascaded SAS Expanders. The SCU EFI driver may

	only see up to 2 levels of the cascaded Expanders (of any type of enclosure/expander). The RSTe 3.0 UI does handle up to 4 levels while installed on Legacy OROM and up to 3 Levels on EFI driver.
Resolution	Issue resolved in the 3.0.3014 SCU driver.

Title#	**SGPIO Migration/Rebuild flashing doesn't resume after Locate button pressed**
Reference	3235595
Product	Intel® RSTe 3.0
Version	3.0.0.1086
Operating System	Win7
Problem Description	When LEDs are blinking during rebuild or migration if the Locate button is pressed in the UI after locate has completed the rebuild or migration blinking doesn't resume on locate
Resolution	Issue resolved in the 3.0.0.3011 release

6.6 Issues Resolved in Release 3.0.0.3002

The following issues have been resolved with the release of the Intel® RSTe 3.0 Pre-PC driver version 3.0.0.3002.

Title#	**RSTe 3.0 GUI May Display 4K Logical Sector SAS Drives as '0' byte sectors**
Reference	3235342
Product	Intel® RSTe 3.0
Version	3.0.0.1111
Operating System	Windows*
Problem Description	When running in a configuration where drives with 4K Logical sectors are used, the RSTe 3.0 GUI may not properly display the sector information. The GUI may report that information as having '0' byte logical sectors.
Resolution	Issue resolved in the 3.0.0.3002 release

Title#	**RSTe 3.0 GUI System Report Count for SATA/Phys May Be Incorrect**
Reference	3235344

Product	Intel® RSTe 3.0
Version	3.0.0.1111
Operating System	Windows*
Problem Description	After the creation and removal of RAID volumes, the RSTe GUI system report may incorrectly report the number and types of PHYs/Ports.
Resolution	Issue resolved in the 3.0.0.3002 release

Title#	**Create Volume from an Existing Drive May Fail the Migration on the SCU**
Reference	3235383
Product	Intel® RSTe 3.0
Version	3.0.0.1019
Operating System	Windows*
Problem Description	While performing a Create Volume from an existing driver (on the SCU Controller), the volume migrate may fail. After an attempt to execute a migration with the RSTe 3.0 GUI may report an 'unknown error'.
Resolution	Issue resolved in the 3.0.0.3002 release

Title#	**RSTe 3.0 GUI My Not Properly Initialize a RAID 5 Volume**
Reference	3235415
Product	Intel® RSTe 3.0
Version	3.0.0.1019
Operating System	Windows*
Problem Description	When performing a driver Hot Plug or deleting a RAID volume while the RSTe 3.0 GUI is open, a RAID 5 volume may not be initialized.
Resolution	Issue resolved in the 3.0.0.3002 release

Title#	**Disk Management or Windows Explorer May Report an Empty ODD Device as an Audio CD**
Reference	3235600
Product	Intel® RSTe 3.0
Version	3.0.0.1110

Operating System	Vista Windows XP-64
Problem Description	Running in a configuration with the AHCI Controller configured for either AHCI mode or RAID mode may result in the empty ODD attached to the AHCI Controller being displayed as an Audio CD in disk management or Windows Explorer
Resolution	Issue resolved in the 3.0.0.3002 release

Title#	**RSTe 3.0 GUI May Not Properly Perform Characters Wrap in the Help Console**
Reference	3236499
Product	Intel® RSTe 3.0
Version	3.0.0.1123
Operating System	Win7-64
Problem Description	When viewing the RSTe 3.0 GUI Help information on Create volume, the information displayed may not be properly character wrapped.
Resolution	Issue resolved in the 3.0.0.3002 release.

Title#	**L10N Extra contents in Readme Text Area during Install RSTe driver.**
Reference	3236500
Product	Intel® RSTe 3.0
Version	3.0.0.1123
Operating System	Vista-64
Problem Description	When installing RSTe 3.0 driver using the installation executable the Readme Text area may contain extra/duplicated content.
Resolution	Issue resolved in the 3.0.0.3002 release.

Title#	**RSTe 3.0 Localized Punctuation May Be Incorrect in the Readme Text Area During Installation**
Reference	3236501
Product	Intel® RSTe 3.0
Version	3.0.0.1123
Operating System	Win7
Problem	When installing RSTe 3.0 using the installation executable, the

Description	Readme text area may have some incorrect punctuation in some localized languages.
Resolution	Issue resolved in the 3.0.0.3002 release.

Title#	**RSTe 3.0 Localized Language May See Invalid Characters in the Readme Text Area During Installation**
Reference	3236502
Product	Intel® RSTe 3.0
Version	3.0.0.1123
Operating System	Win7-64
Problem Description	While installing RSTe using the installation executing some localized languages may encounter some invalid characters in the Readme text area.
Resolution	Issue resolved in the 3.0.0.3002 release.

Title#	**RSTe GUI Font Sizes in Help May Be Inconsistent in Some Localize Languages**
Reference	3236504
Product	Intel® RSTe 3.0
Version	3.0.0.1123
Operating System	Win7-64
Problem Description	When viewing Help under the RSTe 3.0 GUI some localized languages may encounter some inconsistent font sizes in the text.
Resolution	Issue resolved in the 3.0.0.3002 release.

Title#	**RSTe 3.0 Uninstall Process May Have Some Sequence Numbers Missing in Removdrv Pop-up Window**
Reference	3236505
Product	Intel® RSTe 3.0
Version	3.0.0.1123
Operating System	Win7
Problem Description	While trying to uninstall RSTe, the RemovDrv Pop-up window may have some missing sequence numbers in some localized languages.
Resolution	Issue resolved in the 3.0.0.3002 release.

Title#	BSOD(0x0A) when installing App of DDPA on 32bit OS if RSTe driver exists
Reference	3236163
Product	Intel® RSTe 3.0
Version	3.0.0.1112
Operating System	Vista Win7
Problem Description	BSOD 0X0000000A occurs when installing applications calling ATA_PASSTHROUGH commands
Resolution	Issue resolved in the 3.0.0.3002 release

Title#	-A and -B SKUs May Not Be Properly Programmed with OEM Parameter Information
Reference	3236312
Product	Intel® RSTe 3.0
Version	3.0.0.1112
Operating System	Windows 2008-64
Problem Description	When attempting to set the Phy parameters in the OEM parameter field for -A and -B SKU parts the RSTe driver may not properly program the SCU Controller with the desired values. -D and -T SKU are not impacted.
Resolution	Issue resolved in the 3.0.0.3002 release

6.7 Issues Resolved in Release 3.0.0.1112

The following issues have been resolved with the release of the Intel® RSTe 3.0 Pre-PC driver version 3.0.0.1112.

Title	RSTe Application does not install in silent mode
Reference #	3235519
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*

Problem Description	When attempting a factory installation download of Windows 7 32/64-bit on any of the BSLSN platforms and the storage driver SRV is included, the download may fail due to the storage driver application failing to install. The application exits with exit code 7, which indicates that the application cannot downgrade a driver in silent mode. The reason the application indicates a downgrade condition is because the existing chipset driver for the SATA controller is considered newer than the driver installed by the IRST SRV. Workaround: When using the silent installation method, use the "-overwrite" option.
Resolution/Status	Issue resolved in the 3.0.0.1112 release.

6.8 Issues Resolved in Release 3.0.0.1111

The following issues have been resolved with the release of the Intel® RSTe 3.0 Pre-PC driver version 3.0.0.1111

Title	Removing a Drive While the System is in Hibernate May Result in a System Crash
Reference #	3006848
Product	Intel® RSTe 3.0
Version	3.0.0.1019
Operating System	Windows*
Problem Description	When using this driver to test system hibernate, if a drive is removed while the system is in hibernate, the system may encounter a system crash condition on resume. Workaround: While testing Hibernate, avoid removing any drives.
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	SGPIO Activate LED May Not Work Properly
Reference #	3235104
Product	Intel® RSTe 3.0

Version	3.0.0.1086
Operating System	Windows*
Problem Description	When running in a configuration with an SGPIO compliant backplane, issuing an Activate LED command from the LED not flashing
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	RSTe UI Volume Status Inconsistent
Reference #	3006886
Product	Intel® RSTe 3.0
Version	3.0.0.1040
Operating System	Windows*
Problem Description	When initiating a RAID migration, the 'Volume Properties' reports the state as 'Normal' but the 'Information' pane may report the volume as 'Migrating Data'
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	IO throughput not divided equally among all the targets in a direct attached SAS configuration
Reference #	3007089
Product	Intel® RSTe 3.0
Version	3.0.0.1040
Operating System	Windows*
Problem Description	During IO, uneven throughput observed across all targets.
Resolution/Status	Issue resolved with the 3.0.0.1111 release. This behavior is a result of the test tool functionality.

Title	Windows* Server 2008 May Randomly Mark Drive Offline
Reference #	3007153
Product	Intel® RSTe 3.0
Version	3.0.0.1080

Operating System	Windows*
Problem Description	When running in a configuration with Windows* Server 2008 while performing Port Roaming (during partition creation) Disk Manager may report the drive(s) as off-line. Thus far this issue has only been seen on Windows* Server 2008.
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	**NCQ DATA Payload Length Errors May not be Handled Correctly.**
Reference #	3007208
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	Running in a configuration were an NCQ data payload length error is encountered the RSTe driver may not properly hand that error condition. The drive may become unresponsive until a LUN reset is issued.
Resolution/Status	Issue resolved with the 3.0.0.1111 release. The RSTe 3.0 product is behaving as expected under these conditions.

Title	**Windows Vista 32-bit May Not Install to a SATA drive attached to SCU**
Reference #	3007270
Product	Intel® RSTe 3.0
Version	3.0.0.1065
Operating System	Windows*
Problem Description	When installing Windows Vista 32-bit to a SATA drive attached to the SCU, the installation may be canceled with the message "Windows could not determine if this computer contains a valid system volume." Work Around: Avoid installing Windows Vista
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	**IOMeter May Become Unresponsive When Running Heavy IO to a 4 Drive RAID 5 Volume**
Reference #	3234393

Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	While running IOmeter (sequential writes) to a 4 Drive RAID 5 configurations (with Stripe sizes of 8 16 32 and 64) the application may become unresponsive.
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	**RSTe Driver May Not Fully Support Two Required CSMI IOCTLs**
Reference #	3234745
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	When running in a configuration where CSMI IOCTL's are used to help manage and analyze a platform the RSTe driver may not fully support two of the required CSMI IOCTLs (that are part of the base CSMI support). Both RSTe SCU and AHCI RAID drivers may not properly support: CC_CSMI_SAS_GET_SATA_SIGNATURE CC_CSMI_SAS_GET_PHY_INFO
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	**System May Not Boot to a Bootable Degraded RAID5 Volume After One HDD is Removed**
Reference #	3234763
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	If creating one RAID5 volume with four SATA HDD attached to SCU (Port0, 1, 2, 3), then making a bootable partition on the RAID5 Volume, they system may not be to boot to that RAID5 Volume if it is degraded (as a result of the HDD in port0 being removed). The system may be able to boot to the RAID5 Volume when degraded (as a result of one of the HDDs from port1, port2 or port3 has been removed).
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	**RSTe 3.0 UI May Report an Unknown Error When Creating a RAID 0**

	Volume and Enabling Write-Back Cache
Reference #	3234892
Product	Intel® RSTe 3.0
Version	3.0.0.1086
Operating System	Windows*
Problem Description	While trying to create a RAID 0 Volume and attempting to enable Write-Back Cache may result in the RSTe 3.0 UI may report an Unknown Error.
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	Installation Windows 2003 from the RSTe F6 Driver off of a Floppy Disk drive May Take Several Minutes
Reference #	3234895
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	While attempting to install Windows 2003 using the RSTe F6 drivers from a floppy disk drive the loading of the driver may take several minutes to load.
Resolution/Status	Issue resolved with the 3.0.0.1111 release. This was not an issue with the RSTe 3.0 product.

Title	RSTe UI May Not Report the Vendor/Device ID Information Correctly
Reference #	3234934
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	The industry standard for controllers is to display the Vendor and Device Identifiers in hex. Currently the RSTe UI may label the controller as Manufacturer" where the industry standard is Vendor Identifier; and "Model number" where the industry standard is Device Identifier. Currently the Manufacturer and Model numbers may be displayed in decimal."
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	RSTe Driver May Encounter a 0x1E System Crash When Waking

	from Sleep Mode
Reference #	3234978
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	When attempting to wake the system up from sleep mode the RSTe driver may encounter a 0x1E system crash condition.
Resolution/Status	Issue resolved with the 3.0.0.1111 release. This was not an issue with the RSTe 3.0 product.

Title	**Romley Platform May Encounter a 0xA0 INTERNAL_POWER_ERROR System Crash When Hibernating**
Reference #	3234982
Product	Intel® RSTe 3.0
Version	3.0.0.1080
Operating System	Windows*
Problem Description	While attempting to Hibernate the Romley platform may encounter a 0xA0 INTERNAL_POWER_ERROR system crash condition. It is not clear if the RSTe 3.0 driver is involved in the error or if it is another Romley component.
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	**RSTe 3.0 May Not Be Sending the Proper Security Protocol Command to a SAS Target**
Reference #	3235141
Product	Intel® RSTe 3.0
Version	3.0.0.1073
Operating System	Windows*
Problem Description	When running in a configuration with SAS drives attached, the RSTe 3.0 driver may not be sending the proper SECURITY PROTOCOL COMMAND IN to a SAS target, resulting in an invalid "security protocol".
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	**RSTe Legacy SCU OROM May Negotiate to 3Gbps instead of 6Gbps**
Reference #	3235183

Product	Intel® RSTe 3.0
Version	All version prior to 3.0.0.1111
Operating System	Windows*
Problem Description	When connecting a 6Gbps drive, the RSTe 3.0 Legacy RAID OROM may only negotiate the link speed to 3Gbps.
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	**SCU EFI driver May Become Unresponsive with SAS Drives Attached with –A/B SKU of the Intel® C600 series chipset**
Reference #	3235206
Product	Intel® RSTe 3.0
Version	3.0.0.1086
Operating System	Windows*
Problem Description	The SCU EFI Driver may lock up while enumerating drives connected to a -A or -B SKU Intel® C600 series chipset based system.
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	**The HDD Activity LED (SAS_LED#) is always on after power on**
Reference #	3235215
Product	Intel® RSTe 3.0
Version	All version prior to 3.0.0.1111
Operating System	Windows*
Problem Description	The HDD Activity LED on the front panel or M/B may be always on after SUT power on, and it may not blink when the system is accessing data.
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	**BSOD when Hot Plugging Expander Network with Many Drives**
Reference #	3235324
Product	Intel® RSTe 3.0
Version	3.0.0.1090
Operating System	Windows*
Problem Description	When Hot Plugging more than 120 Drives using multiple Expanders that are Daisy Changed and plugged into the SCU phy 1 and 2 ports causes a BSOD D1 while hot plugging the 121st Disk on an Expander

	that has a free open slot.
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

Title	**Activate LED link disappears after hot plugging disk**
Reference #	3235347
Product	Intel® RSTe 3.0
Version	3.0.0.1110
Operating System	Windows*
Problem Description	The 'Activate LED' link disappears as an option after a disk is hot plugged.
Resolution/Status	Issue resolved with the 3.0.0.1111 release.

7 Hardware Compatibly

7.1 External Hardware Compatibility

The embedded file indicates the current list of external hardware used in validation and is subject to change without notice. Please contact your factory representative for questions on any specific hardware item.

Enterprise SAS Drives

Vendor	Family	Model Name/Number
Fujitsu	AL9Se Series (2.5")	MAY2036RC
Fujitsu	AL9LX Series (3.5")	MAX3036RC,
Fujitsu	AL10Se Series (2.5")	MBB2 Series
Seagate	SAS	Barracuda ES.2 7.2k rpm
Seagate	SAS	Cheetah 15k.6 ((3.5")
Seagate	SAS	Cheetah 15K.4 (3.5")
Seagate	SAS	Cheetah 15K.5 (3.5")

Seagate	SAS	Cheetah 15K.7
Seagate	SAS	Savvio 10K.1 (2.5")
Seagate	SAS	Savvio 10K.2 (2.5")
Seagate	SAS	Savvio 15K.1 (2.5")
Seagate	SAS	Cheetah NS
Hitachi	Ultrastar 15K147 3.5" (Viper A')	HUC101473CSS300,
Hitachi	Ultrastar 15K147 3.5" (Viper B)	HUS153014VLS300, HUS153073VLS300
Hitachi	Ultrastar C10K147 2.5" (Cobra B)	HUC101473CSS300,

Enterprise SATA Drives

Vendor	Family	Model Name/Number
Fujistu	A160 (2.5") 7200 RPM FDE Option Extended Duty	MHZ2080BK
Hitachi	Ultrastar A7k1000 (3.5") 7.2rpm	
Seagate	Barracuda 7200.10 Serial ATA	
Seagate	Barracuda 7200.11 Serial ATA	
Seagate	Barracuda ES	
Western Digital		WD1002FAEX
Western Digital		WD6000HLHX

Expanders and Enclosures

Vendor	Model Number
LSI	LSISAS2x36
LSI	LSISAS2x28
LSI	LSISAS2x24
PMC Sierra	PM8005 SXP
PMC Sierra	PM8004 SXP
LSI/Engenio	LCA Dx ESM JBOD (2u enclosure)
Adaptec	ASE-335 (Miramar)
Adaptec	SANbloc S50 (Enzo)
Adaptec	EVO
AIC	XJ1100
AIC	XJ1100
AIC	EM16-53C-01A2
AIC	EM24-54C-01A1
Dell	PowerVault MD1000
Dell	PowerVault MD1200
Dell	PowerVault MD1220
Dell	PowerVault MD3200
Dell	PowerVault MD3220
IBM	DS3500
Xyratex	RS1603X
Supermicro	CSE-M28E1
Supermicro	CSE-M28E2
Supermicro	SC836E1-R800V
ICY Dock	MB453SPF
ICY Dock	MB454SPF-B
ICY Dock	MB455SPF-B
HP	BK765A

HP	BK766A
HP	BK782A
HP	AW522A
HP	AJ940A
HP	BK766A
HP	StorageWorks D2600
HP	StorageWorks D2700
Xtore	XJ SAS26-224R
Xtore	XJ SAS24-316R (3G)
Startdom	ST8
ICY Dock	
USI	DES2122-P
Promise	Vtrak E-Class E310
Promise	Vtrak J-Class (J630S)
EPSD	Scotch Valley
LSI	LSI630J
LSI	LSI620J

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